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ABSTRACT

This paper examines gifted education in the context of current educational reform efforts. It offers a rationale for the differentiated education of gifted students based on American values and equitable allocation of educational resources. Examples are offered of curriculum content modification for math, science, language arts, and social studies which utilize four approaches: (1) acceleration, (2) enrichment, (3) sophistication, and (4) novelty. The relationship of gifted education to the America 2000 program and to the six national education goals is noted. The paper then reviews major reform efforts in the areas of accountability, the middle school concept, and cooperative learning. Issues remaining to be solved are also identified and include personnel preparation, unidentified students (e.g., the culturally different), curricular options, strategies and metathinking, and the value of the term, "gifted", itself. (31 references) (DB)

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Gifted Students and Educational Reform

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Introduction

As the tumultuous 20th Century comes to a close, the status of gifted students in American public schools remains unclear. America's strongest students are caught in a web of societal ambivalence. For 30 years, educational enterprise in the United States has struggled between two desirable educational goals: *excellence* and *equity* (Gardner, 1961; Gallagher, 1991). The dilemma is clear. There are many students, often from cultural minorities, who are not doing at all well in the school system, have not had an equal educational opportunity, and need a variety of additional resources to perform up to the modest standards of current school enterprise (Schorr, 1988).

On the other hand, society is being battered by a series of reports that shows that America's students, particularly gifted students, are not performing as well as the best students from other countries (National Commission on Excellence in Education, 1983). The specter of economic competition has caused these findings to be viewed with considerable societal unease. To compound this problem, many distinguished observers are talking about the needs of a post-industrial society, an information society that demands a highly sophisticated and educated population. There is little question that the number of jobs that demand muscles are decreasing and that the number of jobs that demand brains are increasing.

One of the ironies of this excellence/equity balancing act is that America, as a society, *has* made enormous investments in the education of gifted students. But these investments have occurred mainly at the higher education level. The United States is justly proud to have the finest law schools; medical schools; and graduate programs of sciences, arts, and humanities. The enormous number of students from other countries who take advantage of both undergraduate and graduate education in this country testifies to the universal appreciation for the quality of higher education in the United States. At this level, students become well-prepared for leadership roles and significant positions in society. It is only at the elementary and secondary school levels that the United States blows an uncertain trumpet and risks losing many of its gifted youth.

Values and the Allocation of Educational Resources

One of the key concepts that represents fundamental American values is that of vertical equity, or "the unequal treatment of unequals, in order to make them more equal" (Gallagher, 1991). Such a concept provides comfort and support to those who work with youngsters with handicapping conditions or students with limited opportunities to develop to their full potential.

The arguments for the differentiated education of gifted students, once one gets beyond the general proposition that all students should be educated to their potential, must be different. Gifted students are needed, not just by their families or their friends but by society as a whole, to fill the increasing demand for an educated society in the information age. There is also strong evidence that many students with substantial talent go unrecognized or unchallenged in current school programs (Whitmore, 1980; Rimm, 1991).

The 1960s were years of substantial attention to gifted students, reflecting the interest stemming from the Sputnik scare. From that era, a fairly

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consistent model of school adaptations for gifted students has been in place in many states (Seaberg, 1991). These adaptations include changes in learning environment, curriculum content, and mastery of special skills.

Changes in learning environment are designed to bring groups of high-ability students together with a highly qualified teacher to allow for an accelerated or specialized curriculum. Such changes can take the form of cluster grouping, resource room, part-day special class, full-day special class, and even special schools like the network of state residential high schools for science and mathematics that have recently appeared on the scene (Stanley, 1991).

Changes in curriculum content have been made necessary by the rapid mastery of the standard content by these high-ability students. The content can be changed by *acceleration* — bringing more complex matters to the student earlier, such as calculus in the ninth grade or world history in the fifth grade — or by providing students with special topics in greater depth in such fields as history, geography, language arts, and science. Such studies can extend the general curriculum (*enrichment*), can engage in more complex networks of concepts or theories (*sophistication*), or pursue unique curriculum programs such as interdisciplinary studies (*novelty*) (Gallagher, 1985). Figure 1 provides some samples of differentiated curriculum using these four strategies.

Figure 1
Illustrations of Content Modification for Gifted Students

	Math	Science	Language Arts	Social Studies
Acceleration	Algebra in Fifth Grade	Early Chemistry and Physics	Learning Grammatical Structure Early	Early Introduction to World History
Enrichment	Changing Bases in Number Systems	Experimentation and Data Collecting	Short Story and Poetry Writing	Reading Biographies of Persons for Historical Insight
Sophistication	Mastering the Laws of Arithmetic	Learning the Laws of Physics	Mastering the Structural Properties of Plays, Sonnets, etc.	Learning and Applying the Principles of Economics
Novelty	Probability and Statistics	Science and Its Impact on Society	Rewriting Shakespeare's Plays with Happy Endings	Creating Future Societies and Telling How They Are Governed

Adapted from *Teaching the Gifted Child* (3rd Ed.) by J. Gallagher (1985).

Changes in the mastery of special skills are facilitated by encouraging gifted students to model their performances after the skills of productive professionals. The students are taught how to be a historian, how to conduct a scientific experiment, or how to write a short story. In other words, the students learn how to be producers of knowledge rather than simply receivers of information.

The failure to make appropriate adaptations for gifted students in the standard program leads to well-documented student boredom, lack of interest in education and, in some cases, a rejection of higher or advanced education. This rejection not only is a detriment to the student but also is harmful to the society in which the student lives.

Educational Reform and Its Role

A new wave of educational reform is sweeping America in the last decade of the 20th Century. While there have been periodic bursts of public interest in educational change in the past, this current effort appears to be qualitatively different. First, the president of the United States and the 50 governors have put their weight and influence behind this effort, known as America 2000 (U.S. Department of Education, 1991). Second, there appears to be a widespread feeling around the nation that the current system has failed. To the standard cliche, "If it ain't broke, don't fix it," many people now answer, "It's broke." People now seem to have concluded that minor tinkering with an outdated system will not do and, instead, major structural changes are needed.

Figure 2
The National Education Goals

1. By the year 2000, all children in America will start school ready to learn.
2. By the year 2000, the high school graduation rate will increase to at least 90 percent.
3. By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may prepare for responsible citizenship, further learning, and productive employment in our modern economy.
4. By the year 2000, U.S. students will be first in the world in science and mathematics achievement.
5. By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
6. By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

(U.S. Department of Education, 1991, pp. 61-65)

Six national goals set forth in America 2000, listed in Figure 2, indicate that the changes being contemplated are comprehensive. Was education really supposed to counteract the various consequences of poverty, disillusionment, urban blight, and thirst for recreation and diversion that abound in the land? Whether or not education has truly failed, the perception that it has failed is influencing public policy makers in their decisions. Three of these reform movements that strongly influence gifted students are reviewed briefly: accountability, middle schools, and cooperative learning.

Accountability

The public call for educational accountability is a request for educators to show that they have accomplished the goals they have set for themselves, for specific groups of children, and for all children. For example, if gifted children are in a special program, then can evidence be presented that the special program produces measurable differences in knowledge, skills, attitudes, or motivation with these children?

One of the most disputed of current educational issues is that of ability grouping and its effect on students. Does this administrative device work to the benefit of gifted children or other children who have been so grouped? There have been widely circulated reports purporting to show little or no advantage for ability grouping (Oakes, 1985; Slavin, 1988). General statements that ability grouping is of little benefit appear to be true for low-ability or low-performing students but are not true for gifted students! For gifted students, ability grouping appears to have major payoffs. In an extensive metaanalysis of available data, Kulik and Kulik (1991) stated:

> *The evidence is clear that high aptitude and gifted students benefit academically from programs that provide separate instruction for them. Academic benefits are positive but small when the grouping is done as part of a broader program for students of all abilities. Benefits are positive and moderate in size in programs that are specially designed for gifted students. Academic benefits are striking and large in programs of acceleration for gifted students* (Kulik & Kulik, 1991, p. 191).

A similar finding was reached by Rogers (1991) who summarized information for the National Center for Research on Education of the Gifted. In terms of accountability, programs that accelerate gifted students and place them in resource room programs are reported to have positive results (Vaughn, Feldhusen, & Asher, 1991). Callahan and Caldwell (1986) discussed the special problems of evaluating programs for gifted, such as test ceilings and differential content.

Middle School Concept

A major shift appears to be taking place in this country, from the traditional junior high school to the middle school concept (George, 1988). The middle school concept has several definite elements that are to be included in such a program:

- A strong affective component, with teams of students and teachers organized to foster a sense of belonging
- An interdisciplinary focus on content
- A curriculum that emphasizes inquiry exploration and discovery
- A schedule characterized by flexibility in time and size of group

Many of the strong advocates of the middle school, such as George, also believe that heterogeneous grouping is an important element of middle school programs. Interpreted literally, this would mean that honors courses or accelerated course work for high performing students would be

abandoned. There seems to be good reason to believe that some form of ability grouping for some subject areas is possible without abandoning the concept of middle school, and many middle schools do use ability grouping in specific content areas. There would seem to be good reason to believe that the middle school philosophy and a strong program for gifted students can thrive together (Sicola, 1990).

Cooperative Learning

The term *cooperative learning* covers a variety of activities that bring small groups of students together in pursuit of a particular goal (Johnson & Johnson, 1990; Kagan, 1988; Slavin, 1990). In Slavin's version, there are group goals and individual accountability; each student's performance is counted as part of the team result.

As with the middle school concept, some of the proponents of cooperative teaming propose that groups be organized in a heterogeneous manner, where one gifted student may be teamed with children who have a variety of achievement and aptitude levels (Slavin, 1990). This approach was criticized by Robinson (1990) who believes that there is no evidence supporting this approach with gifted students. Robinson feels that when cooperative learning in heterogeneous groups is used for educating gifted students, group goals inevitably have to be "watered down" to include low-ability children; gifted students often must take on responsibility for the entire group, leaving them with no time to seek more sophisticated knowledge, beyond their grade level, in their own areas of interest.

Cooperative learning is not a comprehensive educational philosophy or program but merely one of a number of useful instructional strategies. As pointed out, there is no essential rule that says that cooperative learning is not a valid strategy to use in groups or classes of gifted students. In fact, it might even work better under such circumstances (Gallagher, 1988).

What Awaits in the 21st Century?

Diverse issues remain to be solved prior to entering the 21st Century in a strong position educationally.

Personnel Preparation

Without well-prepared teachers, there is little likelihood of successful programs for gifted students. Teachers need to have strong knowledge of content, understanding of thinking processes, and a variety of instructional strategies appropriate for gifted students. Personnel preparation is one of the areas in the education of the gifted that obviously requires extensive thought and consideration. For some time now, a special education model has been used in programs for certification in gifted education, which was built upon basic elementary or secondary certification being offered in university departments.

The lack of student and faculty subsidies from outside the university for such programs has made this model an uncertain one, followed by only a handful of higher education institutions. A well-designed personnel preparation program that can be offered through the school systems, as well as the universities, must be developed. The content and nature of this program, and how it is to be implemented, should be the subject of sustained attention by state and national professional associations.

Missing Talent

There are many students in our schools whose full talent is not being recognized and stimulated. The Jacob K. Javits Gifted and Talented Students Education Act of 1988, which supports research and demonstration programs for gifted students at the federal level, has stirred interest in how to discover gifted students from culturally diverse groups. It is just as

important to consider if the programs for these students, once discovered, need to be shaped in different ways to take their cultures into account (Kitano, 1991; Frasier, 1991; Maker & Schiever, 1989).

Similarly, there is intense interest in how gifted females can be better served (Reis & Callahan, 1989; Rand & Gibb, 1989). There is concern about large numbers of gifted females not living up to their full potential because of lower societal expectations of what girls can do, particularly in traditional, male-dominated fields such as mathematics and science (Stanley & Benbow, 1986).

Curricular Options

Valid curriculum units and a curriculum bank for teachers are needed. Most teachers of gifted students have been forced to develop their own materials, and the result has been a potpourri of materials — some brilliant, some mediocre. A more systematized way is needed to assure that the differentiated content provided to these students is both valid and linked to the overall program (Gallagher, 1985).

Strategies and Metathinking

One of the recent discoveries from the information processing literature is that gifted students are much more likely to use metathinking, the ability to think about one's own thinking, to be able to apply systematic strategies to unsolved problems. The explicit teaching of models, such as creative problem solving, or the rules for developing plot and character in short stories would seem to have significant payoff for gifted students (Sternberg, 1986; Borkowski & Kurtz, 1987).

The Term *Gifted*

There is some question as to whether the term *gifted* will survive into the 21st Century. It carries excess baggage (Gallagher 1991), implying an inherited wealth of intellect and an effortless achievement of goals, and it apparently elicits a negative reaction to the presumed elitism that the term implies to many people.

What, if anything, will replace the term *gifted?* Regardless of the term used, the youngsters it now describes will still be out there, bored and non-productive, still needing a stronger educational experience than most of them are receiving now. Confusion about the term should not lessen the resolve to provide an appropriate education for these students. It is the right thing to do, and it might even help to restore our national sense of competence and confidence.

Conclusion

If such external threats as Sputnik and communism have been the driving forces behind the support of many programs for gifted students, then the dissolution of the Soviet Union could well mark a relaxation and diminution of interest in gifted education. However, the United States, in this information age, needs an enormous cadre of bright and well-educated youths to carry us, both economically and politically, into the 21st Century in a position of international leadership.

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